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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,455	09/28/2004	Ronald Joseph Antonius Van Den Oetelaar	NL 030314	2729

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BRIARCLIFF MANOR, NY 10510

EXAMINER

HEYI, HENOK G

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/509,455

Applicant(s)

VAN DEN OETELAAR, RONALD
JOSEPH ANTONIU

Examiner

Henok G. Heyi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities:
 - a. Parenthetical numerals appear in the claims should be deleted to avoid confusion since there are multiple references to the same numeral(s) in the specification/drawings;
 - b. Claim 2, line 1, change "claim1" to - - claim 1 - -. Appropriate correction is required.
 - c. Claims 4, 5, 7, 8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 3 has already been claimed and it is improper to have other multiple dependent claims that depend on the same multiple dependent claim. See MPEP § 608.01(n).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyamoto et al. US 2001/0016242 A1 (Miyamoto hereinafter) in view of Kitaura et al. US 2001/0005350 (Kitaura hereinafter).

Re claim 1, Miyamoto teaches an optical data storage medium for recording by means of a focused radiation beam (see para [0002]) entering the medium through a first plastic/resinous layer (first interface layer, fig 1) which is transparent for the radiation beam, said medium further comprising at least: a first recording stack (interface layer, recording layer, buffer layer and heat sink layer 1-2' to 1-9' in fig 1), comprising a first recording layer (1-5' recording layer in fig 1), being present proximate the first plastic/resinous layer, a second recording stack (interface layer, recording layer, buffer layer and heat sink layer 1-2 to 1-9 in fig 1) , comprising a second recording layer (1-5 recording layer), said second recording stack being present at a position more remote from the first plastic/resinous layer than the first recording stack, a transparent spacer layer between the first and the second recording stack (1-10 adhesive, see fig1).

Miyamoto fails to teach about the spacer layer having a thickness larger than the depth of focus of the focused radiation beam characterized in that a first optically transparent thermal barrier layer interposed between the first recording stack and the first plastic/resinous layer. However, Kitaura teaches that the thickness of the separating layer is required to be more than the depth of the focus (para [0043]).

Therefore the combined teaching of Miyamoto and Kitaura as a whole would have rendered obvious to have the thickness of the spacer layer more than the depth of focus of the radiation beam in order to avoid unwanted light beam from the first layer pass through to the second layer and distort the recording process.

Re claim 2, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium as claimed in claim 1, wherein the first recording layer is a write once layer (such as DVD-R) and the second recording layer is one selected from a write once layer (such as DVD-R), a rewritable layer (DVD-RW) and a read only layer (see [0002]).

Re claim 3, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium as claimed in any one of claims 1 or 2, wherein the thermal barrier layer has an optical absorption $k < 0.01$ at a wavelength λ of the focused radiation beam ($-3.5 < k < 0.5$, see para [0061]).

Re claim 4, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches a dual stack optical data storage medium, wherein the thermal barrier layer has a thermal conductivity smaller than 1 W/mK (0.5W/mK, see fig 16).

Re claim 5, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium, wherein the thermal barrier layer has a thickness in the range of 1 - 500 nm (35-100nm, see fig 16).

Re claim 6, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium as claimed in claim 5, wherein the thermal barrier layer has a thickness in the range of 5 - 50 nm (35nm, see fig 16).

Re claim 7, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium, wherein the thermal barrier layer ~~comprises~~ mainly comprises a material selected from the group of ZnS-SiO₂, silicon oxynitride and silicon oxide (see para [0094]).

Re claim 8, the combination of Miyamoto and Kitaura as a whole (see Miyamoto) further teaches an optical data storage medium, wherein the medium further comprises at least: a second plastic/resinous layer transparent for the radiation beam opposite from the first plastic/resinous layer (first interface layer, see fig 16), a third recording stack, comprising a third recording layer (either one of Disk C, D or E in fig 16), being present proximate the second plastic/resinous layer, a fourth recording stack, comprising a fourth recording layer (either one of Disk C, D or E in fig 16), said fourth recording stack being present at a position more remote from the second plastic/resinous layer than the third recording stack, a transparent spacer layer between

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the third and the fourth recording stack having a thickness larger than the depth of focus of the focused radiation beam (see Kitaura: para [0043]) a second optically transparent thermal barrier layer (heat sink layer, fig 1 of Miyamoto), interposed between the third recording stack and the second plastic/resinous layer (another information recording member having the same structure is bonded to the information recording member described above by using an adhesive, see para [0095] and also fig 1 of Miyamoto).

Examiner's Note

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henok G. Heyi whose telephone number is (571) 272-1816. The examiner can normally be reached on Monday to Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HGH


VU LE
~~SUPERVISORY~~ PATENT EXAMINER